

Sultan Qaboos University
COLLEGE OF AGRICULTURAL AND MARINE SCIENCES

Annual Report 2010-2011



August 2011

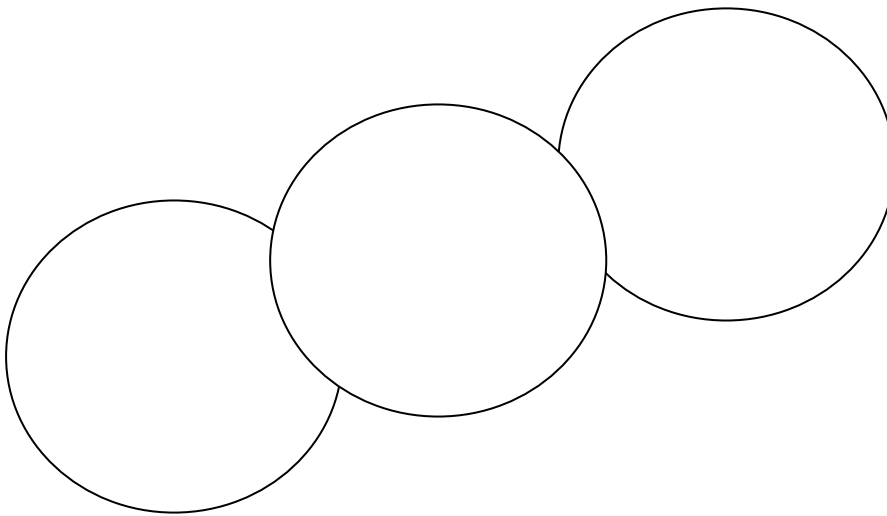
كلية العلوم الزراعية والبحرية
College of Agricultural & Marine Sciences



Sultan Qaboos University
COLLEGE OF AGRICULTURAL AND MARINE SCIENCES



Annual Report
2010-2011



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Dean's Report

The vision of the College of Agricultural & Marine Sciences (CAMS) is to foster learning by enhancing access to educational opportunities and by expanding knowledge through research. Recognizing its unique research and educational mission to the people of Oman, the College provides leadership in discovering, accessing, and disseminating knowledge through high quality research, instruction and extension programs. These contribute to food security and promote the well-being of individuals and communities. CAMS faculty and staff seek to enhance the sustainability of agricultural and economic systems and to promote stewardship of natural resources. This is achieved through ten bachelor, eight MSc and four PhD programs. We believe that our graduates are multi-skilled with entrepreneurial spirits, and face their futures with confidence.

Our undergraduate enrollment has been increasing steadily over the years. The CAMS intake was 213, 247, 265, and 343 in AY07/08, AY08/09, AY09/10 and AY10/11, respectively. Noticeable achievements of CAMS are seen in the continuous increase in undergraduate student numbers and the commencement of PhD programs in Crop Sciences, Food Science & Nutrition, Marine Science & Fisheries and Soils, Water and Agriculture Engineering. CAMS faculty maintain high quality research productivity with a yearly average of 1.2 refereed papers per faculty. This is comparable to international standards. Furthermore, CAMS faculty secured several major grants from TRC, HM Trust Fund, and Agricultural and Fisheries Development Funds (MAFW). CAMS academic staff serve as Chief Editors, Editors or as members of editorial boards of more than ten internationally reputed journals.

CAMS is very active in serving the SQU community and the Omani community at large. In order to facilitate impact of our research and expertise, we collaborate locally with several ministries namely Agriculture & Fisheries Wealth, Environment & Climate Affairs, Health, and Regional Municipalities and Water Resources. One of our noticeable strengths is international collaboration with recognized institutions to develop academic interchange on the basis of research and student exchanges. The College leadership endeavors to establish and maintain local and international networks to facilitate our goals to prepare students for leadership in an innovation-driven economy and global society. It promotes research and creative work, which increases intellectual, social and economic conditions and improves the quality of life for Omanis through extension, outreach and service.

Dr. Ahmed Al-Maskri
Acting Dean

Teaching

The College maintained vigorous and diverse teaching activities covering ten undergraduate and nine postgraduate programs. The following two tables summarise teaching activities in CAMS over the 2010-2011 academic year:

Total number of courses and registrations per department

Department	Courses		Registrations	
	Fall	Spring	Fall	Spring
AVS	22	22	303	404
CROP	19	21	322	227
FSN	19	21	505	446
MSF	14	16	290	282
NRE	13	12	328	260
SWAE	15	22	607	670
Dean's Office	2	2	416	568
TOTAL	104	116	2771	2857

Graduate courses and registrations per department

Department	Courses		Registrations	
	Fall	Spring	Fall	Spring
AVS	0	2	0	5
CROP	2	4	4	17
FSN	1	2	3	7
MSF	1	1	2	6
NRE	1	1	4	3
SWAE	1	0	0	0
Dean's Office	0	1	0	9
TOTAL	6	11	13	47

In November 2010, 126 CAMS students graduated, (BSc.: 106; MSc.: 18; and Postgraduate Diploma: 2).

Department	BSc Graduates	MSc Graduates	PG Diploma
AVS	4	1	1
CS	3	2	-
FSN	40	6	-
MSF	9	4	-
NRE	8	2	-
SWAE	42	3	1
TOTAL	106	18	2

* For explanation of departmental acronyms see pages 10 – 18.

Graduate Programs

Postgraduate student (PhD) graduated in SP 2011 – Mr. Ghalib Said Al Saidi,
Doctor of Philosophy in Food Science and Nutrition

Title of Thesis: Thermal Characterization of Gelatin from Fish Skin and
Mammalian Sources

Research

Research Output

Table 1. Publications from faculty and staff at CAMS during 2010.

Refereed journals	71
Book	1
Chapter in books	19
Conference publications (Proceedings:72; Abstracts:44; Posters:23)	139
Technical reports	18
Book evaluation	4
PhD dissertation	1
Articles in newspapers & other SQU publications	34
Total	287

Research Funding

Table 2. HM grant awarded in May 2011 to CAMS faculty.

No.	Title of Research	Principal investigator	Amount (R.O.)
1	Value Added Functional Products from Less Utilized Biomaterials Locally Available in the Sultanate of Oman	<i>M.S. Rahman</i>	119,500

In addition, one project received funding from The Research Council (Table 3).

Table 3. Research grant awarded by The Research Council (TRC) to CAMS faculty in 2011.

No.	Title of Research	Principal investigator	Amount (R.O.)
1	Development of Computer Vision (CV) Technology for Quality Assessment of Dates in Oman	<i>M. Annamalai</i>	109,100

The College had a total of 8 ongoing HM projects with a total budget of 748,550 Omani Rials, two of these projects were completed in 2010 (Table 4).

Table 4. Ongoing research projects funded by HM Strategic Fund until 2011.

No.	Title of Research	Year Granted	Principal Investigator	Amount (R.O.)
1	Management of salt-affected soils and water for sustainable agriculture (Completed 2010 – final report submitted on August 21, 2010)	2006	<i>S. Al-Rawahy</i>	95,000
2	Conservation and utilization of plant genetic resources in Oman	2007	<i>N. Al-Saady</i>	139,300
3	Development of management strategies for pesticide resistance and pesticide residue problems in Omani agriculture (Completed 2010) – final report due in June 2011)	2007	<i>F. Talukder</i>	81,950
4	Rejuvenating lime production in Oman: Resolving current challenges	2008	<i>R. Al-Yahyai</i>	100,000
5	Characterization, evaluation and conservation of indigenous animal genetic resources in the Sultanate of Oman	2008	<i>O. M. Gaafar</i>	80,000
6	Stock assessment of Kingfish	2008	<i>A. Govender</i>	79,800
7	Feasibility of managed aquifer recharge using excess treated wastewater in Oman	2009	<i>M. Ahmed</i>	85,000
8	Potential sources of soil-borne plant pathogenic fungi and bacteria into farms in Oman	2010	<i>A. Al-Saadi</i>	87,500
Total				748,550

A total of 13 additional projects received funding from SQU Internal Grants (Table 5).

Table 5. Internally funded project awarded in 2010.

No.	Title of Research	Principal Investigator	Amount (R.O.)
1	Study on Theileriosis of indigenous sheep in the Sultanate of Oman	<i>M. Tageldin</i>	8,400
2	<i>Escherishia coli</i> 0157:H7 and other Shiga toxin-producing <i>E. coli</i> in the faeces of healthy sheep, goats and cattle in the Sultanate of Oman	<i>D. Al Ajmi</i>	4,000
3	Integrated management of the Dubas bug: Fundamental investigation in biological, cultural, and chemical control	<i>A. K. Al-Wahaibi</i>	6,000
4	A study of the nutritional and metabolic factors contributing to the occurrence of autistic spectrum disorders among children in the Sultanate of Oman	<i>M. Waly</i>	8,000

No.	Title of Research	Principal Investigator	Amount (R.O.)
5	Extraction and structural characterization of gelatin from fish skin	<i>M. S. Rahman</i>	8,000
6	Diabetes education in primary health care in Oman: Factors predicting diabetes control, effect on knowledge and metabolic control	<i>L. Al-Subhi</i>	6,400
7	Assessing the impact of global food crisis on food security in Oman	<i>H. Boughanmi</i>	4,000
8	A supply chain management approach to promoting competitive advantage of small-scale fishery sector in Oman	<i>O. Al-Jabri</i>	4,000
9	Optimal control of micro irrigation systems	<i>H. AbdelRahman</i>	6,000
10	Effects of siltation behind Al-Khod Dam on the soil properties and recharge efficiency	<i>A. K. Al-Maktoumi</i>	6,000
11	Agronomic and economic feasibility of salt tolerant plants for saline lands and water of Batinah	<i>A. Al-Busaidi</i>	5,000
12	Performance evaluation of a solar tunnel dryer for drying of lemons in Oman	<i>M.A. Basunia</i>	4,000
13	Roof-mounted irrigation by capillary siphoning. (One year project)	<i>A. Kacimov</i>	200
Total			70,000

During 2010-2011, ten internally funded projects were completed (Table 6).

Table 6. Internally funded project completed in 2010.

No.	Title of Research	Year Granted	Principal Investigator	Amount (R.O.)
1	Economic and institutional aspects of Kingfish management	2005	<i>H. Kotagama</i>	5,000
2	Investigation of the prevalence of tick infestation and tick-borne haemo-parasites of goats in the Sultanate of Oman	2007	<i>P. Bobade</i>	12,000
3	The effect of Omanization policy on the efficiency of dairy and date farms in Oman	2007	<i>M. Mbaga</i>	11,350
4	Molecular characterization of phytoplasma associated with Witches' Broom, phyllody/virescence diseases of Sesame (<i>Sesamum indicum</i> L.) in Oman	2007	<i>A.J. Khan</i>	12,000

No.	Title of Research	Year Granted	Principal Investigator	Amount (R.O.)
5	Damage cost in dry aflaj and live aflaj value for recreation	2008	<i>S. Zekri</i>	8,900
6	The taxonomy and ecology of <i>Benthic elasmobranchs</i> in the Gulf of Oman	2008	<i>A. Henderson</i>	4,980
7	Antiatherogenic characteristics of consumption of fruit and vegetables grown in Oman	2008	<i>M. Al-Ani</i>	11,000
8	Chemical and physical characterization of date pectin and its effect on Date syrup quality	2008	<i>A.A. Al-Alawi</i>	6,000
9	Production and quality assessment of a smoked tuna (<i>Thunus albacares</i>) product	2008	<i>N. Guizani</i>	3,800
10	Roof-mounted irrigation by capillary siphoning	2010	<i>A. Kacimov</i>	200
Total				75,230

Table 7. Externally-funded research and development projects awarded in 2010.

No.	Title of Research	Principal Investigator	Agency	Amount (R.O.)
1	Molecular characterization of Begomovirus associated with tomato and other crops and screening of tomato cultivars tolerant to leaf curl virus	<i>A.J. Khan</i>	TRC	132,000
2	Oceanographic regime shift in the Sea of Oman	<i>S. Piontkovski</i>	TRC	146,000
3	Baseline study on distribution and the reproductive biology of the brown mussel in the Sultanate of Oman	<i>S. Al Barwani</i>	MFW	57,400
4	Comprehensive master plan for Al Batinah	<i>S. Zekri</i>	HMR Consultants [Contract Research (CR)]	798
5	National strategy to combat salinity and protect water resources from pollution	<i>S. Zekri</i>	ICBA (CR)	2,814
Total				339,012

Table 8. Other externally-funded research and development projects awarded in 2010 and completed in the same year.

No.	Title of Research	Principal Investigator	Agency	Amount (R.O.)
1	The application of planning and management principles and techniques to the design of the Duqm port project	<i>A.Palfreman</i>	MFW [Additional Services (AS)]	2,450
2	Fatty acid analysis in fish samples	<i>M.Claereboudt</i>	MFW (AS)	2,160
Total				4,610

Table 9. Ongoing externally-funded research and development projects awarded from previous years.

No.	Title	Principal Investigator	Year Granted	Agency	Amount (R.O.)
1	Characterization of camel milk protein isolates as nuraceutical and functional ingredients	<i>A. Alawi</i>	2008	UAEU [Collaborative (CL)]	40,000
2	Jabal Akhdar rose water production projects	<i>M. Mbaga</i>	2008	MoA (CR)	12,385
3	Assessment of shark population movements, delineations and breeding grounds in the Sultanate of Oman	<i>A. Henderson</i>	2008	MFW (CR)	100,000
4	Diversity, stocks and feasibility of sea-cucumber aquaculture in Oman	<i>K. Al-Rashdi</i> <i>M. Claereboudt</i>	2008	MFW (CL)	94,300
5	Assessments of mesoscale physical-biological inter-actions along the coast of Oman as the basis for understanding the periodic fisheries losses	<i>A.Al-Azri</i>	2009	MFW (CL)	222,900
6	Heavy metal contamination of fish and shellfish	<i>S. Goddard</i> <i>S. Al-Barwani</i>	2009	IIUM (CL)	14,400
7	Detection of citrus exocortis viroid, citrus cachexia viroid and citrus greening bacteria by PCR assays in citrus trees from Royal Gardens and Farms	<i>A. J. Khan</i>	2009	Royal Court Affairs [Additional Services (AS)]	7,500
Total					491,485

Table 10. Other externally-funded research and development projects awarded from previous years and completed in 2010.

No.	Title of Research	Principal Investigator	Year Granted	Agency	Amount (R.O.)
1	Pesticide resistance and residue problems in Omani and UAE vegetable production. Phase II: Solution through rapid and molecular detection techniques and farmers awareness	<i>F. Talukder</i>	2006	UAEU (CL)	24,750
2	Histology training and consultation	<i>A. Ambu Ali</i>	2009	MFW (CL)	2,650
				Total	27,400



Training and Community Services



The College maintained an extensive program of outreach. The main features of this program are summarized below.

Conferences, Workshops, Training and Lectures Presented

Title	Beneficiary	Host Dept / Participant
• International Symposium on New Technologies for the Food Processing Industry	SQU, Ministries and private sector	FSN
• CAMS Students Research Conference	SQU	SWAE
• Workshop on Entrepreneurship and Micro and Small Enterprise Promotion	CAMS & Ministries	NRE
• Workshop on Celebrate the Graduation of the First Cohort of Students from Veterinary Technology Program	CAMS & Ministries	AVS
• Workshop on Modern Poultry Production	SQU, Ministries & Private sectors	AVS
• Workshop on Bacterial Identification: Current Techniques and Future Needs	SQU	FSN
• Trained 23 students from Higher College of Technology	Students of Higher College of Technology; College of Sciences SQU	CS,FSN, AVS & Central Instrument Lab
• Trained three staff from Ministry of Manpower	Ministry of Manpower	FSN & CS

Title	Beneficiary	Host Dept / Participant
<ul style="list-style-type: none"> Trained two staff from Ministry of Regional Municipalities and Water Resources 	MRMWR	CS Central Instrument Lab
<ul style="list-style-type: none"> Trained one staff from Vocational Training Center, Saham 	Vocational Training Center, Saham	CS
<ul style="list-style-type: none"> Trained four students from Putra University, Malaysia 	Putra University	SWAE
<ul style="list-style-type: none"> Training on Oceanography, Marine Pollution and Management of Coastal Areas 	Oman Navy	MSF
<ul style="list-style-type: none"> Lecture on Collection and preservation on insects methods 	Al-Amal School	Students at CS
<ul style="list-style-type: none"> Lecture on Water Resources of Oman 	School for International Education	SWAE



Other Selected Outreach Activities

Title	Beneficiary	Host Dept / Participant
<ul style="list-style-type: none"> CAMS Sport Day 	CAMS	Social Activities Committee
<ul style="list-style-type: none"> The World Water Day Exhibition 	SQU & Private Sectors	SWAE
<ul style="list-style-type: none"> Participation in Agricultural Equipment Exhibition at Oman Exhibition Center 	Omani Society	CAMS
<ul style="list-style-type: none"> Participation in Symposium of Seafood & Quality 	Fishery Quality Control Center, MAFW	FSN

Departmental Highlights

Animal and Veterinary Sciences (AVS)



- * The Department continued its excellent publishing rate by publishing 13 papers in high quality international journals.
- * Eight presentations were made at international conferences.
- * Six posters and three technical reports were presented and completed.
- * Two research projects from SQU internal research funds were approved.
- * Prof. Osman Mahgoub organized a workshop on Genetic Resources of Animals.
- * The Department organized a workshop on Potential Employers for the Veterinary Technology Graduates.
- * Dr. Waleed Al-Marzooqi organized a workshop on Modern Poultry Production.
- * Dr. Osman Mahgoub was promoted to full Professor.
- * Dr. Mathankumar joined the Department as a technician in Veterinary Technology.
- * The Department organized a workshop during the University Day to Veterinarians on Animal Haematology.
- * The Department continued serving the public and private sectors by providing sample analyses and diagnostic services of diseases including: investigation on the cause of death of camels (Royal Omani Police, 2010), causes of deaths among Gazella (Sohar goat farm, 2010), Theileriosis in sheep at Sohar (2010).
- * The Department continued training students from the Ministry of Manpower on food analysis techniques.
- * Consultancies were provided to public and private sectors such as on national committees for disease control and quality appraisal of poultry products (Rayyaf Company).
- * The Department maintained collaborative contacts and work with the Washington State University, USA and University of Porto, Portugal.
- * Mr. Mohamed Al-Abri joined the University of Cornell, USA for PhD studies.

- * Ms. Salma Al-Adwani is finishing her master degree from Washington State University (USA).
- * Drs. Osman Mahgoub and Isam Kadim participated in the International Camel Symposium, 7-10 June 2010, Garissa, Kenya.
- * Drs. Osman Mahgoub and Isam Kadim participated in the 4th International Date Palm Conference, Abu Dhabi, UAE, 15-17 March.
- * Dr. Isam Kadim participated in the 56th International Congress of Meat Science and Technology, Jeju Island, Republic of Korea, 15-20 August, 2010.
- * Dr. Mohamed Tageldin presented a keynote presentation to the discussion panel on bird flu organized by the Cultural Club, Muscat.
- * Prof. Eugene Johnson served on the project evaluation committee of the National Research Council.
- * The veterinary research labs continued to assist various Ministries and private animal owners in the diagnosis of microbial and immunological disorders.
- * Dr. Patrick Akin Bobade provided clinical pathology services and advice on clinical cases to veterinary personnel within and outside the University.



Crop Sciences (CROP)



- * Dr. Sultan Khan, University of Agriculture, Faisalabad, Pakistan, visited the Department as Consultant from January to June 2011. He taught courses in biotechnology and plant breeding and conducted research in the Department.
- * Dr. Ahmed Al-Maskri was appointed Acting Dean of the College.
- * Dr. Michael Deadman was promoted to the grade of Full Professor in the Department.
- * Dr. Fahad Al Said was promoted to the grade of Associate Professor in the Department.
- * Dr. Ahmed Al-Maskri continued to serve as a member of the University Council.
- * Dr. Jamal Khan continued as editor in chief for the Biotechnology Journal and as editor for International Journal of Virology, Journal of Plant Sciences and International Journal of Agricultural Research.
- * At the invitation of Vale (Oman) Ltd, Dr. Ahmed Al-Maskri and Dr. Michael Deadman visited Brazil to discuss collaboration with the Federal University of Vicosa on mango and citrus research.
- * Dr. Nadiya Al-Saady continued her secondment to The Research Council.
- * Dr. Farid Talukder continued to serve as an assessor for the Australian Research Council.
- * Faculty visited over 50 farms to provide advice about crop production and protection.
- * Dr. Farid Talukder served as General Manager of the Mediterranean Group for Pesticide Research (MGPR).

Food Science and Nutrition (FSN)



- * The Department received four SQU-funded projects (Dr. Al Bulushi, Dr. Al - Attabi, Dr. Mothershaw and Dr. Ali), one TRC funded Grant (Dr. Essa) and one HM funded project (Prof. Rahman)
- * The Department organized, jointly with La Rochelle University, France, an International Symposium on new technologies for the food processing industry, Muscat, 12-14 December 2010 (Prof. Rahman)
- * The Department organized a Workshop on Bacterial Identification: Current Techniques and Future Needs. Muscat, 31 January to 1 February 2010 (Dr. Al- Bulushi)
- * The Department published 32 refereed papers, 3 edited books, 11 book chapters, 6 conference proceedings, 9 conference abstracts and 4 popular articles, and presented 12 papers at International conferences and 22 papers in local conferences/workshops/seminars.
- * Mr. Ghalib Al-Saidi received the first PhD degree from the Department and from CAMS. He was supervised by Prof. Shafiur Rahman.
- * One PhD student, Mr Kasim Al Shamsi, from University Kebangsaan Malaysia visited the Department to conduct part of his experimental work.
- * One MSc. student, Ms. Sumaya Zainab, from India Gandhi National Open University visited the Department to conduct part of her experimental work.
- * Two academic staff members and six students from the Higher College of Technology (Ministry of Manpower) were trained in our laboratories for 4 to 8 weeks in the areas of food chemistry, food microbiology and food processing.
- * The Department collaborated with the Ministry of Commerce and Industry to organize a symposium on Fish Processing Industry in Oman (Drs. Al-Alawi and Al-Bulushi)
- * The Department collaborated with Prof. Gary Dykes, Monash University, Australia, in studying the microbial characteristics of Omani traditional foods (Dr. Al Bulushi)

- * The Department collaborated with Dr. Gilles J. Guillemin, University of New South Wales, Australia (Dr. Essa)
- * The Department collaborated with Dr. Abha Chauhan, New York State Institute for Basic Research, New York, USA (Dr. Essa)
- * The Department collaborated with Dr. Mustaq Memon, Washington State University, Pullman, WA, USA (Dr. Essa)
- * The Department collaborated with Dr. Salwa Bornaz, Institute of Food Industry, University of Tunis II, in the area of milk technology (Dr. Guizani)
- * The Department collaborated with Dr. Abdur Rahman, Kuwait University, Kuwait (Dr. Essa)
- * The Department collaborated with the La Rochelle University, France in the area of characterizing fish skin gelatin, and biofuel. (Prof. Rahman)
- * The Department collaborated with Prof. Patricia Kendall, Colorado State University: Designing education program for diabetes management (Dr. Al-Subhi)
- * The Department collaborated with Professor Aminah Abdullah of Universiti Kebangsaan Malaysia, in the area of sensory analysis of Omani halwa. One Ph. D student is being supervised jointly. (Prof. Rahman)
- * The Department collaborated with UAEU University regarding Camel Milk project (Dr. Al Alawi, Prof. Rahman, and Dr. Guizani)
- * The Department collaborated with Dr. Jasim Ahmed from for publishing a book entitled "Handbook of Food Process Design", Blackwell Publishing, Oxford, UK (Prof. Rahman)
- * The Department collaborated with Prof. Dr. Shoaib Akhtar in the area of glycemic index of foods and plant foods, University of Sargodha, Sargodha, Pakistan (Dr. Amanat Ali)
- * The Department collaborated with Dr. Abdurrahman Musaiger, Arab center for Nutrition Research, Bahrain (Dr. Waly).
- * The Department collaborated with Prof. Richard Deth, Northeastern University, Boston, USA. (Dr. Waly).
- * The Department collaborated with Prof. Mostafa Arafaa, King Saud University, Riyadh. Saudi Arabia. (Dr. Waly).
- * The Department collaborated with Prof. Omar Obeid, American University, Beirut, Lebanon. (Dr. Waly).

Marine Science and Fisheries (MSF)



- * On University Day Dr. Sergey Dobretsov received the university award for outstanding research.
- * Dr Michel Claereboudt was appointed Assistant Dean for Postgraduate Studies and Research in CAMS.
- * In January 2011, Dr. Adnan Al-Azri was seconded to the Ministry of Foreign Affairs for two years as a member of the Continental Shelf Committee.
- * Dr. Fahad Saleh Ibrahim continued his secondment to the Ministry of Agriculture and Fisheries as Acting Director of the Aquaculture Centre.
- * In March 2011, Dr. Stephen Goddard was appointed Acting Director of the Marine Biotechnology Research Centre.
- * The Department offered a training workshop for the Royal Navy of Oman in February, 2011.
- * Mr. Khalid Al-Subhi graduated with an MSc. Degree.
- * Dr. Hussein Al-Masroori received 6000 OMR grant to study long live selectivity and performance.
- * Members of the Department presented 15 papers at different workshop and conferences locally and internationally.

Natural Resource Economics (NRE)



- * Dr. H. Kotagama received an SQU internal grant for his new project: An Analysis on the Optimal Plan on Planting and Re-planting of Date Palm in Oman Through a Multiperiod Linear Programming Optimization Model.
- * Dr. A. Palfreman successfully organized two workshops; the first on “Entrepreneurship and Micro and Small Enterprise Promotion” and the second on “Logic and Magic: How to get entrepreneurship ideas”.
- * Dr. M. Mbaga is leading the preparation of a training workshop to the Ministry of Agriculture employees on “Market Data Analysis in the Agricultural and Fisheries Sector”.
- * Dr. H. Boughanmi participated in the international Conference on Asian Food security held in Singapore, August 10-12, 2011
- * Dr. M. Mbaga participated with a paper titled “The Diversification of the Oman Economy and the Efficiency of Date Production.” In the CAES/WAEA joint meeting held in Banff, Canada (29 June -1 July, 2011).
- * Department faculty continued to be involved in the local community by presenting seminars and participating in local conference. In this regard, 10 papers and short communications were presented.
- * The Department organized a number of field trips to enhance the students’ practical skills. Dr. Slim in collaboration with the Technical Staff supervised two field trips to Musandam Fish Market and Shoar-Musandam- Dubai. Dr Omar organized two field trips as part of the extension course to Suwaiq (Farmers’ Association) and Al-Khabora (Fishermen Training Institute).
- * Three MSc. students successfully defended their thesis: Ms. Salwa Al-Jabri (Supervisor: Dr. Kotagama); Ms. Mariam Al-Belushi (Supervisor: Dr. Mbaga) and Ali Al Farsi (Supervisor: Dr. A. Palfreman).

- * Department Faculty published four papers in refereed journals, submitted two papers, and contributed two chapters in forthcoming books.



Soils, Water and Agricultural Engineering (SWAE)



- * With only 12 faculty members, among whom 4 had College-SQU level executive positions (Dean, Director of AES, two directors of SQU Research Centres), SWAE taught courses in three undergraduate and two graduate (MSc and PhD) programs with one of the highest (at CAMS) number of total and per faculty (FTE) registered students
- * SWAE faculty supervised 11 graduate students (main supervision)
- * SWAE and MRMWR organized and successfully conducted “International Workshop on Hydrology: Nature & Engineering”
- * SWAE and MRMWR organized and conducted World Water Day 2011
- * SWAE and KWR Watercycle Research Institute, The Netherlands organized and successfully conducted a workshop “Potential Solutions to Challenges in Water Resources Management”
- * SWAE was inspected by an external examiner, Prof. Strack (University of Minnesota, USA)
- * SWAE faculty contributed to a series of SQU workshops on Paper Writing and coordinated/conducted a SAME seminar
- * SWAE faculty received an SQU Award as the Best Academic at CAMS.
- * SWAE faculty and staff had intensive international collaboration with American, Australian, Canadian, Dutch, German, Japanese, Malaysian, Russian universities

UNESCO Chair



Within the vision of promoting an integrated system of research and capacity building in Marine Biotechnology, the following has been achieved during the academic year 2010-2011:

- * Prof. Soussi was working closely with the Ministry of Commerce and Industry. He was the Chairman of the Management Team of the feasibility study for the establishment of the Center of Excellence in Marine Biotechnology in Oman (CEMBO).
- * The feasibility study was completed and presented to national and international stakeholders. The feasibility study clearly details that CEMBO is a leading-edge concept for Oman.
- * Prof. Soussi was invited speaker at UPMC, University of Paris VI, June 2010.
- * Prof. Soussi was invited speaker at the International Conference on Education for Sustainable Development in Support of Cultural Diversity and Biodiversity, Muscat, Oman, 24-26 January 2011.
- * The visit of Dr. Anders Sellborn, a researcher in marine biology at the University of Gothenburg, Sweden, was hosted in March 2011.
- * Continued collaboration with Ministries and The Research Council.
- * Continued collaboration on capacity building with the Oman National Commission and the UNESCO as well as with governmental and non-governmental organizations.
- * Continued publications in scientific journals as well as newspapers and magazines to disseminate information.
- * The Omani Government approved the establishment of CEMBO as a government backed program in partnership with the private sector.
- * CEMBO is now registered as Marine Biotechnology Research and Business Park-Oman and the pre-operative phase launched in April 2011.

Agricultural Experiment Station (AES)

Animal Section



- * AES supported practical training labs of eight courses that took place at AES. Technical and labor staff were involved to train and demonstrate to students the various activities in different sections.
- * AES constructed new housing for the sheep herd at the AES. The new unit can accommodate bigger herd size and consists of feed store, lambs nursing pens and demonstration room for teaching.
- * A horse stable was established to accommodate three mares and one stallion. This new addition to AES came along with the diversity of teaching courses in the college.
- * AES constructed two new semi-intensive poultry houses to be an addition to the existing poultry houses in order to increase egg and meat production.
- * Modifications were carried out in the animal science building in terms of partitioning some rooms to have more rooms to suit the veterinary program requirement and place the equipment that are used in teaching.
- * Modifications were also carried out in the slaughterhouse to partition three rooms use as offices for technicians and a rest room for the laborers.

Plant Section

- * AES supported practical training labs of eleven courses that took place at AES. Technical and labor staff were involved in training and demonstrating to students the various activities in different sections.
- * AES provided support in 17 research projects
- * AES hosted a workshop on growing and propagation of indoor plants
- * AES hosted a workshop on beekeeping

- * AES participated in many activities by CAMS social committee and other societies



Services Section



- * The section supported practical training labs of eight courses that took place at AES. Technical and labor staff was involved in training and demonstrating to students the various activities in different sections
- * AES provided support in 5 research projects
- * Several training visits were made by students from the National Vocational Institute in Saham to the bio-resources and mechanization facilities in the station
- * Major overhauling jobs for many machinery were accomplished during 2010

- * Major irrigation projects were accomplished during 2011 including installation testing and commissioning of movable sprinkler laterals together with a venture fertilizer injection system

Water use data

- The strategic planning implemented to phase out the main line dependence for irrigation purposes was completely met in 2010. Clearly, the station only abstracted 16,539 m³ from the potable water line for livestock and domestic purposes compared to the average yearly consumption of 123,000 m³ for the past 13 years. Furthermore, in 2010, the total water usage for irrigation was the highest when looking to the past 13 years. This is justified by the increasing demand for teaching, research and extension field activities in the station.

Sales

Sales during the year 2010

Item	R.O.
Animals	19,165.000
Chickens	585.000
Eggs	489.000
Dairy products (Dairy Plant)	26,462.000
Date Palm	3,826.000
Honey and Bee hives	1,442.000
Sweet corn	107.000
Mango	171.000
Watermelon	174.000
Lemon	175.000
Total	52,596.000

Staffing

Staff List

Dean's Office	
Ahmed Al-Maskri	Assoc Prof & Acting Dean
Masoud Al-Hinai	Director of Administration
Majid Al-Mugheiry	College Superintendent
Ahmed Al-Alawi	Asst Prof & ADUS
Michel Claereboudt	Assoc Prof & ADPSR
Rashid Al-Yahyai	Asst Prof & ADTCS
Said Al-Ghanbousi	Asst Administrator
Leonila Magpantay	Coordinator, DO
*Azza Al-Akhzami	Coordinator, ADUS
Fe Alcachupas	Coordinator, ADPSR
Huda Al-Busaidi	Coordinator, ADTCS
Wafa Al-Raeesi	Coordinator, ADMIN
Jamal Al-Sabahi	Senior Tech
Mohammed Al-Darai	Storekeeper
Aneesa Al-Jahwari	Clerk
Tariq Al Alawi	Computer Tech
Suroor Al-Ghafri	Driver
Juma Ali Al-Musalmi	Messenger
UNESCO Chair	
Bassam Soussi	UNESCO Chair for Marine Biotechnology
Cristina Buñiag	Coordinator
Agricultural Experiment Station	
Malik Al-Wardy	Asst. Prof & Director
Khalifa Al-Hinai	Deputy Director & Asst. Director (Services)
Abdullah Al-Abri	Asst Director (Animal)
Abdulbaqi Al-Raeesi	Acting Asst Director (Plant)
Mohammed Al-Rashdy	Coordinator
Negib Al-Raeesi	Clerk
Abduljalil Al-Zadjali	Vet
Ahmed Al-Yaqoubi	Tech
Ananias Justan	Tech (Dairy)
Attia Nageeb Mohd	Tech (Dairy)
Manolito Mengullo	Tech (Dairy)
Reynaldo Bello	Tech (Sheep)
Salim Al-Waheebi	Tech (Poultry)
Anwer Mohiuddin	Labourer (Goats)
Khalfan Al-Hinai	Labourer
Mohd Al-Khuziri	Labourer
Hamed Al-Mahraki	Tech (Greenhouse)
Saleh Al-Shargi	Tech (Ornamental/Fruit)
Yousuf Al-Belushi	Tech (Fields)
Hafidh Al-Mahraki	Tech (Bee)
Zahir Al-Abri	Clerk
Mohd Akbar Khan	Labourer (Greenhouse)
Mohd Al-Mubaishi	Labourer (Fields)
Noor Khan	Labourer (General)

Salim Al-Nabhani	Labourer (General)
*Sauod Al-Owasis	Labourer
Abdulla Al-Muqbali	Tech (Irrigation)
Ahmed Al-Ghafri	Tech (Irrigation)
Ali Suleiman Al-Zahimi	Tech (Mechanical)
Ernesto Pereira	Tech (Mechanical)
Salim Al-Mawaly	Tech (Central Store)
Abdullah Al-Qanoobi	Labourer (Irrigation)
Mohd Mazher Uddin	Labourer (Mechanical)
Ahmed Al-Malki	Labourer (General)
Animal & Veterinary Sciences	
Isam Kadim	Assoc Prof & HOD
Naseeb Al-Saqry	Superintendent
Nawal Al-Aghbari	Coordinator
Eugene Johnson	Prof
Osman Gaafar	Prof
Patrick Akin Bobade	Assoc Prof
Waleed Al-Marzooqi	Asst Prof
Yasmin El Taher Ahmed	Asst Prof
Mohamed Tageldin	Asst Prof
Dawood Al-Ajmi	Asst Prof
Mohammed Al-Abri	Lecturer
♦ Salma R. Al-Adwani	Demonstrator
Rashid Al-Busaidi	Assoc Researcher
Samera Khalaf	Senior Tech
Khalid Al-Habsi	Tech
Musab Al-Busaidi	Tech
Sadeq Al-Lawatia	Tech
Rabea Al-Maqbali	Tech
Kaadhia K. Al-Kharousi	Tech
Remya Nair	Vet
*Mathankumar Somasundaram	Vet
Crop Sciences	
Ahmed Al-Maskri	Assoc Prof & HOD
Yousef Al-Maqbali	Superintendent
Salwa Al-Zadjali	Coordinator
Michael Deadman	Assoc Prof
Akhtar Jamal Khan	Assoc Prof
Fahad Al-Said	Asst Prof
Farid Talukder	Asst Prof
Nadiya Al-Saady	Asst Prof
Rashid Al-Yahyai	Asst Prof & ADTCS
Ali Khalfan Al-Wahaibi	Asst Prof
Abdullah Al-Saadi	Asst Prof
Amna Al-Ruheili	Demonstrator
Ali Ahmed Al-Raeesi	Tech
Ali Masoud Al-Subhi	Tech
Issa Al-Mahmooli	Tech
Khamis Al-Habsi	Tech
Latifa Al-Kharousi	Tech

Omar Al-Mantheri	Tech
Yacoob Al-Mahrooqi	Tech
Nadia Mohammed Azam	Tech
Muhammed Asif Hanif	Tech
Food Science & Nutrition	
Nejib Guizani	Assoc Prof & HOD
Mohammed Al-Rizeiqi	Superintendent & Assoc Researcher
Fatima Al-Amri	Coordinator
Bassam Soussi	Prof & UNESCO Chair
Mohd Shafiu Rahman	Prof
Majeed Al-Ani	Assoc Prof
Amanat Ali	Asst Prof
Ann Mothershaw	Asst Prof
Buthaina Al-Rasasi	Asst Prof
Ahmed Al-Alawi	Asst Prof & ADUS
Lyutha Al-Subhi	Asst Prof
Mostafa Al-Waly	Asst Prof
Ismail Al-Bulushi	Asst Prof
Mohammed Essa	Asst Prof
Zaher Al-Attabi	Asst Prof
◊ Mohd Al-Khusaibi	Lecturer
◊ Nasser Al-Habsi	Lecturer
Dalila Al-Bahri	Tech
Buthaina Al-Bulushi	Tech
Insaaf Al-Marhubi	Assoc Researcher
Intisar Al-Zakwani	Tech
Raya Al-Malky	Tech
Salha Al-Maskari	Tech
Zahra Al-Kharusi	Tech
Jamila Al-Zadjali	Tech
Farhat Al-Naabi	Tech
Rashid Al-Belushi	Senior Engineer
Cesar Uñalivia	Dairy Plant Manager
Isauro Orlino	Tech
Sulium Al-Abri	Tech
Sami Suleiman Al-Kharusi	Engineer
Hamad Al Khatri	Labourer
Marine Science & Fisheries	
Stephen Goddard	Assoc. Prof & HOD
Khamis Al-Riyami	Superintendent
Nadia Al-Kalbani	Coordinator
Bassam Soussi	Prof & UNESCO Chair
Michel Clereboudt	Assoc Prof & ADPSR
Sergey Piontkovski	Assoc Prof
Anesh Govender	Assoc Prof
Saud Al-Jufaili	Asst Prof
Adnan Al- Azri	Asst Prof
Y.V. B. Sarma	Asst Prof
Aaron Henderson	Asst Prof
Sergey Dobretsov	Asst Prof
Hussain Al-Masroori	Asst Prof
*Miaad Al-Mammari	Demonstrator
Fahad Al-Ajmi	Assoc Researcher
Said Al-Barwani	Assoc Researcher

Khalid Al-Hashmi	Assoc Researcher
Harib Al-Habsi	Senior Tech
Aisha Ambu Ali	Lab Supervisor
Ahmed Al-Souti	Tech
Sulaiman Al-Sheili	Tech
Salim Al-Khusaibi	Tech
Mohammed Al-Gheithi	Tech
Saleh Al-Maashary	Boat Captain
Manolito Barte	Boat Engineer
Natural Resource Economics	
Houcine Boughanmi	Assoc Prof & HOD
Juma Saleem Al-Musalmi	Superintendent
Sabra Al-Rijaeby	Coordinator
David Andrew Palfreman	Assoc Prof
Slim Zekri	Assoc Prof
Hemesiri Kotagama	Asst Prof
Msafiri Mbaga	Asst Prof
Omar Al-Jabri	Asst Prof
*Ibtisam Al-Abri	Demonstrator
Amani Juma Al-Alawi	Tech
Soils, Water & Agricultural Engineering	
Anvar Kacimov	Prof & HOD
Abdullah Al-Belushi	Superintendent
Asila Al-Rashdi	Coordinator
S. A. Prathapar	Assoc Prof
Hayder Abdel Rahman	Assoc Prof
Mushtaque Ahmed	Assoc Prof
Malik Al-Wardy	Asst Prof & DirAES
Said Al-Ismaily	Asst Prof
Salem Al-Jabri	Asst Prof
Yaseen Al-Mulla	Asst Prof
Salim Al-Rawahy	Asst Prof
Mohammed Basunia	Asst Prof
Ali Khamis Al-Maktoomi	Asst Prof
Abdulrahim Al-Ismailli	Asst Prof
Hemanatha Jayasuriya	Asst Prof
Manickavasagan Annamalai	Asst Prof
Talal Yasir Al-Shukeili	Lecturer
Ahmed Al-Busaidi	Assoc Researcher
Mansour Al-Haddabi	Assoc Researcher
Seif Al-Adawi	Chief Tech
Mohammed	Chief Tech
Muna Al-Amry	Senior Tech
Mohamed Al-Balushi	Senior Tech
Hamad Al-Busaidi	Senior Tech
Hamid Al-Handali	Senior Tech
Najat Al-Khaifi	Senior Tech
Hamad Al-Hajri	Tech
Adel Al-Mahdouri	Tech
Said Al-Saqri	Tech
Leelwa Al-Hamadani	Tech
Zeyana Said Al-Hashmi	Tech

* New Staff ** Departing Staff ◊ On Study Leave

Staff Promotions

Dept	Staff	New Position/Grade
AVS	Osman Mahgoub Gaafar	Professor
FSN	Mohammed Al-Rizeiqi	Associate Researcher B
	Insaaf Al-Marhubi	Associate Researcher B
	Sami Al-Kharusi	T5
	Cesar Uñalivia	T4
	Isauro Orlino	T6
	Sulium Al-Abri	T3
	Zahra Al-Kharusi	T6
	Raya Al-Malki	T3

Scholarships & Training

Scholarships

Dept	Staff	Nature of Study
AVS	Mohammed Al-Abri	PhD
	Salma Al-Adwani	MSc
FSN	Nasser Al-Habsi	PhD
	Mohammed Al-Khusaibi	PhD

Short-term Training

Dept	Staff	Course
AVS	Rabea Al-Maqbali	Proteomic and Enzyme Analysis, UK
	Khalid Al-Habsi	Haematology and Clinical Biochemistry, Malaysia
FSN	Farhat Al-Naabi	Body Weight Management, UK
	Zahra Al-Kharousi	VITEK 2 compact in microbial identification, France

Visitors

The College received many local and international visitors:

- Prof. Mushtaq Memon, Washington State University, USA
- Dr. Ravi Gooneratne, Lincoln University, New Zealand
- Dr. Albano Beji, Pereirafrom University of Porto, Portugal
- Prof. Karim Allaf, Université La Rochelle, France
- Prof. Eugène Vorobiev, Université de Technologie de Compiègne, France
- Prof. Lindsay Charles Brown, Queensland University
- Dr. Abdur Rahman, Kuwait University
- Dr. Gilles J Guillemin, University of New South Wales, Australia
- Dr. Villy Tan-Fermin, Seafdec, Philippines
- Dr. S. DiMarco, Texas A&M University, USA.
- Dr. Olivier Guelorget, Centre National de la Recherche Scientifique, University of Montpellier, France.
- Dr. Tom Freese, AquaSol Inc, Aquaculture Consulting, Florida, USA.
- Mr. Phil Cruver, President, KZO Sea farms, Long Beach, California, USA.
- Dr. Marcus Marktanner, American University of Beirut, Lebanon
- Dr. Sarath Sirilal Kodithuwakku, University of Paradeniya, Sri Lanka
- Mr. Nayana Nadeesha Mawilmada, Harvard- UK
- Mr. Ian Strachan, Principal, Emerald Hill Developments P/L, Melbourne
- Mrs. Rabab Al Ajmi, Ministry of Agriculture, Sultanate of Oman
- Mr. Emaad Al Shukeili, Marketing Researcher, The Omani Centre for Investment Promotion & Export Development, Sultanate of Oman
- Prof. Abdelfattah Y. M. Nour, Purdue University, USA, AVS external examiner
- Prof. Mary Harris, Colorado State University, USA, FSN external examiner
- Prof. Sharon Smith, University of Miami, USA, MSF external examiner
- Prof. Otto Strack, University of Minnesota, USA, SWAE external examiner

Student Society



The Agricultural and Marine Sciences Society (AMSS) have habitually demonstrated great commitment and given creative input to improve their activities and programs throughout the current academic year. It has strive to establish itself both inside and outside of the CAMS as follows:

At the College level:

They were actively involved in the organization of:

- Orientation day to welcome the new admitted students to CAMS.
- Major's week in association with the Center of Career Guidance.
- Educational workshops to develop the instructive skills of students.
- Lectures delivered by invited speakers for outside the University.
- Launching "Agricultural Echoes" a magazine designed to voice the aims and ambitions of CAMS' students.
- The Fifth veterinary medicine gathering.
- College Sports Day.

At the University level:

- Participated in World Water Day, World Food Day and Arbor Day.
- Participated in various University activities.
- Participated in The Agricultural Festival "Dimensions of Invention"

The crowning glory for AMSS was to be awarded first place during the Student Activities Exhibition for 2010. The society received a medal of honor in recognition of the care taken to provide an extra push for the future. The competition amongst the different SQU student societies was strong. AMSS managed to secure first place due to the group work which characterized its exhibits. Additionally, the

AMSS successfully organized its major event of this academic year. "Third Agricultural Festival-Dimensions of Inventions" which exhibited many student's inventions from the different majors of the College.



AMSS is not only a spoken word; it is actually the consolidated and devoted efforts of its members to achieve its goals and to present the best activities throughout the year. Therefore, it has the responsibility to boost the College and its students to excel and to find solutions to any obstacles that could limit the creativity and distinction of CAMS students.



Major New Items of Equipment

The following major items listed below, all priced above RO 1,000-, were ordered or delivered during the academic year 2010-11.

NO.	PRODUCT DESCRIPTION	QUANTITY ORDERED	UNIT PRICE
1	2WD TRACTOR 65-70HP	1	19380.000
2	GROWTH CHAMBER	1	4439.355
3	ROLLING DOOR	1	2000.000
4	PENETROLOGGER	1	2072.552
5	TRIME FM-3	1	2050.840
6	PRESSURE PLATE APPARATUS	1	7847.000
7	W.E.T. SENSOR KIT	1	1339.064
8	PCR SYSTEM	1	7400.000
9	THERMAL CYCLER	1	2950.000
10	CENTRIFUGE	1	1995.000
11	FREEZER	1	1792.000
12	INCUBATOR	1	1175.000
13	FREEZ DRYER	1	7500.000
14	MICROCENTRIFUGE	1	1760.000
15	MASTERCYCLER GRADIENT	1	4390.000
16	GEL DOCUMENTATION SYSTEM	1	4151.176
17	ULTRA FREEZER	1	4442.000
18	ULTRA FREEZER	1	3484.615
19	FASTRACKA II	1	19522.130
20	INCUBATOR	1	2625.000
21	STEREOMICROSCOPE	1	22752.000
22	LIQUIDE NITROGEN CONTAINER	1	2299.000
23	EGG INCUBATOR	1	5777.000
24	FLAME PHOTOMETER	1	5480.000
25	FLOW32-1K SAP FLOW SYSTEM	1	6017.880
26	FLOW4 SAP FLOW DATA LOGGER SYSTEM	1	3755.840
27	AGRICULTURE MOWER	1	4750.000



CAMS Office Bearers

Ahmed Al-Maskri	Acting Dean
S. A. Prathapar	Dean (from 2008 to March 2011)
Michel Claereboudt	Asst. Dean for Postgraduate Studies & Research
Ahmed Al-Alawi	Asst. Dean for Undergraduate Studies
Rashid Al-Yahyai	Asst. Dean for Training and Community Services
Bassam Soussi	UNESCO Chair
Isam Kadim	Head, Dept. of Animal & Veterinary Sciences
Nejib Guizani	Head, Dept. of Food Science & Nutrition
Steve Goddard	Head, Dept. of Marine Science & Fisheries
Houcine Boughanmi	Head, Dept. of Natural Resource Economics
Anvar Kacimov	Head, Dept. of Soils, Water & Agricultural Engineering
Malik Al-Wardy	Director, Agricultural Experiment Station
Masoud Al-Hinai	Director of Administration
Majid Al-Mugheiry	College Superintendent



Mailing Address

College of Agricultural and Marine Sciences
Sultan Qaboos University
P. O. Box 34, Al-Khod
Postal Code 123
Muscat, Sultanate of Oman

General Enquiries

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Offices

Undergraduate Studies
Tel : 24141252

Postgraduate and Research
Tel : 24141235

Training and Community Services
Tel : 24141248

Administration
Tel : 24141221

Agricultural Experiment Station
Tel : 24141238

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